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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,778	12/20/2005	Hidenobu Wakita	601560-20US (04P604US/P36)	4349
53092 7590 11/04/2009 Panitch Schwarze Belisario & Nadel LLP PANASONIC ONE COMMERCE SQUARE 2005 MARKET STREET SUITE 2200 PHILADELPHIA, PA 19103				
EXAMINER				
WANG, EUGENIA				
ART UNIT		PAPER NUMBER		
1795				
NOTIFICATION DATE		DELIVERY MODE		
11/04/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

usptomail@panitchlaw.com

### Office Action Summary

**Application No.**

10/561,778

**Applicant(s)**

WAKITA ET AL.

**Examiner**

EUGENIA WANG

**Art Unit**

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 July 2009.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 18-20 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1 and 18-20 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

1. In response to the amendment received July 1, 2009:
  - a. Claims 12-17 have been cancelled as per Applicant's request. Claims 1 and 18-20 are pending.
  - b. The previous 112 rejection has been withdrawn in light of the amendment.
  - c. The core of the previous rejection has been maintained, with slight changes made in light of the amendment. All changes to the rejection are necessitated by the amendment, thus the action is final.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xu (US 6,551,732) in view of Shuji et al. (JP 2003-317783) and further in view of Zhu et al. (US 2004/0035055).

As to claims 1 and 18-20, Xu (US 6,551,732) teaches a fuel cell system comprising a hydrogen generator including a reformer configured to generate a hydrogen-rich gas containing carbon monoxide from a fuel containing hydrocarbon and water; a shift converter configured to generate hydrogen and carbon dioxide from the carbon monoxide in the hydrogen-rich gas and the water; and a carbon monoxide removing portion configured to reduce the carbon monoxide in the hydrogen-rich gas which has not been removed in said shift converter; a fuel cell configured to generate

power using the hydrogen-rich gas supplied from said hydrogen generator and an oxidizing gas; an air supply portion configured to supply air to at least one of a position upstream of said reformer in a flow of the fuel and a position between said carbon monoxide removing portion and said fuel cell in the flow of the fuel (col. 2, lines 40-55; col. 5, line 25 to col. 6, line 60; claims 1-25) and an impurity removing means configured to remove an impurity gas from the air (col. 1, lines 35-45.)

Xu (US 6,551,732) does not teach of the specific impurity means or the combustor of claims 17-20. Shuji et al. (JP 2003-317783), however, teaches an impurity removing means coupled to the cathode exhaust line that is routed to the reforming system of the fuel cell (paragraphs 4-6, 50). The system includes a burner upstream from the absorbing material (p. 9-10, 21-22). The system further includes a desulfurizer located upstream from the reformer for preventing the reforming process reactors from being contaminated with sulfur compounds. The combustors exchange heat with the reforming hydrogen generator system. The Shuji reference does not teach the specific impurity removing materials, however, the claimed materials are well known in the art for removing the sulfur impurities noted by Xu and it would have been obvious to one of ordinary skill in the art to use these impurity removing means to prevent impurities such as sulfur compounds from absorbing to and contaminating the catalysts of the reforming system and the fuel cell. For example, Zhu et al. (US 2004/0035055) teaches a variety of sulfur impurity compounds including metal oxides such as cesium oxide. As et al. (JP 2003-317783), however, teaches an impurity removing means coupled to the cathode exhaust line to prevent impurities from entering

the reforming section of the fuel cell. One of ordinary skill in the art would be motivated to use various impurity removing means that prevent known reaction products from entering the reforming section.

***Response to Arguments***

3. Applicant's arguments filed July 1, 2009 have been fully considered but they are not persuasive.

Applicant argues that Shuji et al.'s burner (combustor) is downstream from the impurity remover (adsorbing agent), not upstream as claimed.

Examiner respectfully disagrees. It is noted that one embodiment of the process of speaks of having air after the burner [70] passing the impurity removal machine [80] supplied via second branch pipe [27] (para 0050). Accordingly, in such an embodiment, of the process air from the burner is fed back to pipe [27], which, as can be seen from fig. 3 is fed to the into the impurity removal machine [80]. This interpretation is seen in fig. 2, as the gas sent from the burner passes through humidifier [24] at a point before the second branch [27] recycles back to the impurity remover [80]. Thus in this manner, the burner can be interpreted to be disposed "upstream" from the impurity removal device, as it feeds to a portion prior to when second branch [27] cycles to the impurity removal device [80], barring specification to upstream. Nothing in the claim language precludes such an interpretation. Office personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Also, limitations appearing in the specification but not recited in the claim are not read into the claim. See *In re*

*Zletz*, 893F.2d 319, 321-22, 13 USPQ2d, 1320, 1322 (Fed. Cir. 1989). Accordingly, the arguments are not found to be persuasive, and the rejection of record is maintained.

With respect to the arguments regarding the 103 rejections, Applicant argues that Xu and Zhu et al. do not cure the deficiencies Shuji et al.. Applicant does not argue how the combination is not proper. Therefore, the Examiner maintains the obviousness, as above.

Applicant argues that the dependent claims are distinct from the prior art of record for the same reason as the independent claim.

Examiner respectfully disagrees. The rejection with respect to the independent claim has been maintained, and thus the rejections to the dependent claims are maintained as well.

### ***Conclusion***

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EUGENIA WANG whose telephone number is (571)272-4942. The examiner can normally be reached on 7 - 4:30 Mon. - Thurs., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/E. W./  
Examiner, Art Unit 1795

/PATRICK RYAN/  
Supervisory Patent Examiner, Art Unit 1795